25. The composite of claim 23 wherein nanotubes are in contact with each other along their longitudinal axes such that the nanotubes that are in contact have an effective length longer than a single nanotube.

26. The composite of claim 23 wherein the nanotubes are dispersed homogenously in at least a portion of said composite.

27. The composite of claim 23 wherein the nanotubes are dispersed in a gradient fashion in at least a portion of said composite.

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28. The composite of claim 23 wherein the nanotubes are dispersed on at least one surface of an object.

29. The composite of claim 23 wherein the nanotubes are selected from the group consisting of straight and bent multi-wall nanotubes, straight and bent single-wall nanotubes, by-products of nanotube preparations, and combinations thereof.

30. The composite of claim 23 wherein the nanotubes comprise about 0.001 to about 15.0 weight percent of the composite.

31. The composite of claim 23 wherein the nanotubes comprise about 0.01 to about 5.0 weight percent of the composite.

32. The composite of claim 23 wherein the nanotubes comprise from about 0.1 to about 1.5 weight percent of the composite.

33. The composite of claim 23 wherein the nanotubes are comprised of carbon, boron nitride, SiC or combinations thereof.

34. The composite of claim 23 further comprising a polymeric material.

35. The composite of claim 34 wherein the polymeric material is selected from the group consisting of a thermoplastic polymer, a thermoset polymer, a non-carbonizable polymer, an elastomer, a natural polymer, and combinations thereof.

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36. The composite of claim 35 wherein the natural polymer is selected from the group consisting of cellulose, gelatin, chitin, polypeptides, polysaccharides, polymeric materials derived from plants, animals, and microorganisms, and combinations thereof.

37. The composite of claim 34 wherein the polymeric material is selected from the group consisting of polyethylene, polypropylene, polyvinyl chloride, styrenic, polyurethane, polyimide, polycarbonate, polyethylene terephthalate, acrylics, phenolics, unsaturated polyesters, and combinations thereof.

38. The composite of claim 35 wherein the polymeric material has a structure is selected from the group consisting of crystalline, partially crystalline, amorphous, crosslinked, fiber, cylinder, plaque, film, sheet, extrusion shape, and combinations thereof.

39. The composite of claim 23 wherein electromagnetic shielding is enhanced by alignment of the nanotubes.

40. The composite of claim 39 wherein alignment occurs by application of a shearing force.

41. The composite of claim 40 wherein the shearing force is selected from the group consisting of an elongation force, an extrusion force, an injection force, a stretching force, and combinations thereof.

42. A composite comprising nanotubes that are substantially not in contact with each other, other than along their longitudinal areas.

43. The composite of claim 42 wherein the nanotubes are not bonded to each other.

44. A composite comprising nanotubes effectively oriented to absorb electromagnetic radiation.

45. The composite of claim 44 wherein absorption of electromagnetic radiation is enhanced by alignment of the nanotubes

46. The composite of claim 45 wherein alignment occurs by application of a shearing force.

47. A composite comprising nanotubes effectively oriented for absorbing electromagnetic radiation wherein said composite generates heat upon exposure to said electromagnetic radiation.

48. The composite of claim 47 wherein the electromagnetic radiation is selected from the group consisting of radio frequencies, microwave radiation, radiation at 20 KHz, radiation at 0.4 MHz, radiation at 15 MHz, radiation at 0.2 GHz, radiation at 1.5 GHz, and combinations thereof.

49. A composite comprising nanotubes wherein application of a shearing force to the nanotubes enhances shielding or absorption of electromagnetic radiation.

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50. An electromagnetic-shielded enclosure comprising an inner space and a surface defining said space, wherein said surface comprises a layer of nanotubes effective for electromagnetic shielding.

51. The enclosure of claim 50 wherein the inner space contains equipment selected from the group consisting of electronic components, computer systems, laptop computers, airline navigation systems, automotive electronics, electronic machinery, life forms, vehicles, aircraft devices, and combinations thereof.

52. A composite comprising nanotubes effectively oriented to provide low radar observability to an object shielded with said composite.

53. The composite of claim 52 wherein low radar observability comprises transmitted radiation levels of less than about 0.001%.

54. The composite of claim 52 wherein low radar observability comprises reflected radiation levels of less than about 16%.

55. A device comprising the composite of claim 52 on a surface.

56. The device of claim 55 wherein the composite has a thickness on said surface of less than 1 mm.

57. A composite comprising a plurality of layers wherein one or more layers contain nanotubes effective for a desired range of electromagnetic shielding.

58. The composite of claim 57 wherein one or more layers are essentially free of nanotubes.

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59. The composite of claim 57 wherein the layers have a variable thickness.

60. The composite of claim 57 wherein the one or more layers have a gradient of nanotube concentration.

61. The composite of claim 57 wherein the layers have the same thickness.

62. The composite of claim 57 wherein the desired range of electromagnetic shielding for each layer is between about 10^3 and 10^{17} Hz.

63. The composite of claim 57 wherein the electromagnetic shielding of at least one layer is effective at 20 KHz.

64. The composite of claim 57 wherein the electromagnetic shielding of at least one layer is effective at 0.4 MHz.

65. The composite of claim 57 wherein the electromagnetic shielding of at least one layer is effective at 15 MHz.

66. The composite of claim 57 wherein the electromagnetic shielding of at least one layer is effective at 0.2 GHz.

67. The composite of claim 57 wherein the electromagnetic shielding of at least one layer is effective at 1.5 GHz.

68. A material comprising a plurality of layers wherein one or more layers comprise nanotubes that provide electromagnetic shielding to said material.

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69. The material of claim 68 wherein the one or more layers containing nanotubes alternate with layers that are essentially free of nanotubes.

70. The material of claim 68 wherein the layers are of the same thickness.

71. The material of claim 68 wherein the layers are of variable thickness.

72. The material of claim 68 which is selected from the group consisting of electronic equipment, computer equipment, stealth devices, aircraft components, low radar-profile components, devices for navigation, medical devices, circuit boards, microwave susceptors, and combinations thereof.

73. A material comprising nanotubes effectively oriented to impart an electromagnetic shielding property to said material.

74. The material of claim 73 wherein the electromagnetic shielding property is selected from the group consisting of an insulative property, low-bulk conductivity, macroscopic low conductivity, anisotropically low conductivity in at least one dimension,